

**We claim:**

1. A transgenic plant comprising a heterologous gene derived from a marine vascular plant.
2. The transgenic plant of claim 1, wherein the marine vascular plant is *Zostera marina*.
3. The transgenic plant of claim 1, wherein the heterologous gene is a zosteric acid biosynthetic gene.
4. The transgenic plant of claim 1, wherein the heterologous gene is a saline-resistance gene.
5. The transgenic plant of claim 1, wherein the heterologous gene is an hypoxia-resistance gene.
6. A transgenic plant comprising at least one heterologous nucleotide sequence encoding a zosteric acid biosynthetic function.
7. The transgenic plant of claim 6, wherein the zosteric acid biosynthetic function is selected from the group consisting of: a sulfotransferase activity, a phenylalanine ammonium lyase activity, and a cinnamate 4-hydroxylase activity.
8. The transgenic plant of claim 6, wherein the heterologous nucleotide sequence comprises a sequence of a least 50 nucleotides of the sequence shown in Figure 4 .
9. A transgenic plant comprising at least one heterologous nucleotide sequence encoding a saline-resistance function.
10. The transgenic plant of claim 9, wherein the saline-resistance gene is selected from the group consisting of: the sequence shown in Figure 13, the sequence shown in Figure 15, the sequence shown in Figure 17.

11. A transgenic plant comprising at least one heterologous nucleotide sequence encoding a hypoxia-resistance function.
12. The transgenic plant of claim 11, wherein the hypoxia-resistance gene is selected from the group consisting of: the sequence shown in Figure 13, the sequence shown in Figure 15, the sequence shown in Figure 17.
13. A nucleic acid which comprises the sequence of SEQ ID No. 1, or a subsequence of at least 50 nucleotides of SEQ ID No. 1.
14. A nucleic acid which hybridizes under stringent conditions to the nucleic acid of SEQ ID No. 1.
15. The nucleic acid of claim 14 which encodes a sulfotransferase activity.
16. A method of producing a transgenic plant possessing an anti-fouling genetic trait comprising:
  - providing a cDNA population derived from a marine vascular plant;
  - isolating from the cDNA population a nucleic acid species which hybridizes to a nucleic acid that encodes a sulfotransferase, a phenylalanine ammonium lyase or a cinnamate-4-hydroxylase activity; and
  - transforming a target host plant with said isolated nucleic acid,
 thereby producing a transgenic target host plant possessing an anti-fouling genetic trait.
17. The method of claim 16, wherein the marine vascular plant is *Zostera marina*.
18. The method of claim 16, wherein the nucleic acid that encodes a sulfotransferase, a phenylalanine ammonium lyase or a cinnamate-4-hydroxylase activity is selected from the group consisting of: .

